

## ABSTRACT OF THE DISCLOSURE

The present invention is characterized by a reactor cooling system, which comprises a lower drywell which is a space for containing a bottom side portion of the reactor pressure vessel, the lower drywell being disposed in a lower portion of the reactor pressure vessel; reactor recirculation pumps for circulating cooling water in the reactor pressure vessel, the reactor recirculation pump being disposed in the bottom side portion of the reactor pressure vessel in such a manner that a side of a motor portion of the reactor recirculation pump is projected into the lower drywell; and heat exchangers disposed in the lower drywell, the cooling water circulated by the reactor recirculation pump passing through the heat exchanger, wherein number of the reactor recirculation pumps is 4 or 6, and the reactor recirculation pumps are arranged with nearly equal angular spacing.